Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, D.C. 20554

In the Matter of	)	
Inquiry Concerning Deployment of Advanced Telecommunications Capability to All Americans in a Reasonable And Timely Fashion, and Possible Steps To Accelerate Such Deployment Pursuant To Section 706 of the Telecommunications Act of 1996	)	CC Docket No. 98-146

REPLY COMMENTS OF
THE NATIONAL ASSOCIATION OF TELECOMMUNICATIONS OFFICERS AND ADVISORS
AND THE NATIONAL LEAGUE OF CITIES

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SUMMARY

Industry commenters ask the Commission to award them free and unrestricted use of local communities' property. However, 47 U.S.C. § 253(d) makes 253(c) issues the exclusive domain of the courts, not the Commission. Any preemption by implication is precluded by Section 601(c) of the Telecommunications Act of 1996.

The industry commenters seek by sheer repetition to perpetuate an undocumented myth that local governments stand in the way of progress. In fact, local communities are eager for competition and for the provision of advanced services to their citizens. There is no evidence to suggest that local governments' current right-of-way management or compensation policies have impeded the entry of competitive providers into the market.

Right-of-way management by local governments is necessary to balance the competing demands placed upon local rights-of-way. Neither the carriers themselves, nor the Commission, can arbitrate right-of-way issues in thousands of local communities. The industry commenters also continue to complain that paying a fair price for the use of municipal property would impose a barrier to entry. This claim is no more than an attempt to seize local communities' property for a single entity's benefit. By seeking to disguise property rights as regulatory constraints, the industry commenters wish to use federal coercive power to interfere with a market transaction. Right-of-way compensation is paid by a user who *receives a special benefit in return* for that payment, and there is no basis for requiring local governments to subsidize competitors by turning over a valuable asset without charging an economically efficient price.

The industry commenters continue to use devices to avoid informing local communities directly of industry allegations of local government misconduct. The Commission should not allow commenters to use this sort of evasion to avoid giving local communities proper notice of the allegations made against them and a fair opportunity to respond.

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I. CARRIERS' USE OF THIS PROCEEDING TO ATTACK LOCAL COMMUNITIES IS REDUNDANT AND WASTEFUL.

The National Association of Telecommunications Officers and Advisors ("NATOA") and the National League of Cities ("NLC") respond once again to the continuing efforts of certain telecommunications providers to win by repetition what they are unable to achieve by logic. Comments by Global Crossing, Ltd., Qwest Communications International, MetroMedia Fiber Networks Services, Adelphia Business Solutions, and Global Photon (the "Industry Commenters") have departed from the purpose of this proceeding to launch a series of gratuitous attacks on local communities. These comments belong (if anywhere) in the

Competitive Networks proceeding,[1] where the Industry Commenters have already had ample opportunity to make their arguments. For the Industry Commenters to repeat these allegations here simply wastes the Commission's time and resources. Moreover, it wastes the scarce resources of local communities, which must divert their attention from other responsibilities, such as public safety, to respond once again to these ill-founded claims. Because the Industry Commenters have dragged these issues into the current docket, NATOA and NLC incorporate by reference in this record the comments filed by NATOA and others in the Competitive Networks proceeding.[2]

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[1] *In the Matter of Promotion of Competitive Networks in Local Telecommunications* ("Competitive Networks proceeding"), 14 F.C.C. Rcd. 12673 (1999) (WT Docket No. 99-217) (CC Docket No. 96-98).

[2] *In the Matter of Promotion of Competitive Networks in Local Telecommunications*, WT Docket No. 99-217, Implementation of the Local Competition Provisions in the Telecommunications Act of 1996, CC Docket No. 96-98, Joint Comments of the National Association of Counties, the United States Conference of Mayors, the National Association of Telecommunications Officers and Advisors, the Texas Coalition of Cities on Franchised Utility Issues, Protect, the City of Dearborn, Michigan, the District of Columbia Office of Cable Television and Telecommunications, Montgomery County, Maryland, Prince George's County, Maryland, the City of St. Louis, Missouri, and the City and County of San Francisco (filed Oct. 12, 1999); *In the Matter of Promotion of Competitive Networks in Local Telecommunications*, WT Docket No. 99-217, Implementation of the Local Competition Provisions in the Telecommunications Act of 1996, CC Docket No. 96-98, Joint Reply Comments of the National Association of Counties, the United States Conference of Mayors, the National Association of Telecommunications Officers and Advisors, the Texas Coalition of Cities on Franchised Utility Issues, Protect, the City of Dearborn, Michigan, the District of Columbia Office of Cable Television and Telecommunications, Montgomery County, Maryland, Prince George's County, Maryland, the City of St. Louis, Missouri, the City and County of San Francisco, and the City of Indianapolis, Indiana (filed Dec. 14, 1999) ("Competitive Networks Comments").

II. SECTION 253 PROHIBITS THE COMMISSION FROM GRANTING THE CARRIERS' REQUESTS.

The Industry Commenters continue to press the Commission to award them free and unrestricted use of local communities' property. It must be noted at the threshold, however, that 47 U.S.C. § 253(d) prevents the Commission from giving in to these demands, even if the Commission were so inclined. Section 253(c) creates a safe harbor for matters concerning (i) management of the public rights-of-way and (ii) fair and reasonable compensation for use of the public rights-of-way on a competitively neutral and nondiscriminatory basis. It is exactly these matters in which the Industry Commenters wish to enlist the Commission's coercive powers on their behalf. Section 253(d) makes 253(c) issues the exclusive domain of the courts, withholding from the Commission any jurisdiction over 253(c) issues. Thus, the persistent allegations of the Industry Commenters represent an attempt to lure the Commission into taking a position in matters that Congress set outside its jurisdiction.

Congress was well aware of the need to manage right-of-way access, which has become more acute with the advent of multiple providers competing for space in the public rights-of-way. And Congress knew that, as a practical matter, no other government entity could supplant local authorities in the essential task of managing access to the public right-of-way. Moreover, Congress understood that the public rights-of-way represent valuable property – held in trust for local citizens by local government. These citizens are entitled to receive "fair and reasonable compensation" for the use of the right of way.

It should also be kept in mind that any preemption by implication is precluded by § 601(c) of the Telecommunications Act of 1996:

> This Act and the amendments made by this Act shall not be construed to modify, impair, or supersede Federal, State, or local law unless expressly so provided in such Act or amendments.[3]

Section 601(c) thus recognizes the careful allocation of federal, state, and local responsibilities reflected in Section 253. Here, even more than generally,[4] preemption is disfavored.

Thus, the Commission *cannot* create new rules for local governments, limit compensation, create adjudicatory procedures, or the like, for local public rights-of-way management and compensation as the Industry Commenters wish. The recourse of the Industry Commenters on these issues is to the courts. And the courts have not generally sustained their attempts to eviscerate the protections of § 253(c).[5]

III. THE INDUSTRY COMMENTS REGARDING LOCAL COMMUNITIES ARE WRONG ON THE MERITS.

A. Local Communities Encourage, Not Discourage, Advanced Networks.

It appears that the Industry Commenters seek by sheer repetition to perpetuate an undocumented myth that local governments stand in the way of progress. In fact, local communities are eager for competition and for the provision of advanced services to their citizens. They have taken a wide variety of steps to encourage the development of competitive

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[3] 47 U.S.C. § 152 nt.

[4] *See also Cipollone v. Liggett Group, Inc.*, 505 U.S. 504, 516 (1992); *Rice v. Santa Fe Elevator*, 331 U.S. 218, 230 (1947) (the Commission must "start with the assumption that the historic police powers of the States were not to be superseded by [a federal act] . . . unless that was the clear and manifest purpose of Congress"); *Hillsborough County v. Automated Med. Lab.*, 471 U.S. 707, 715-716 (1985).

networks. For example, a recent report from the Texas Public Utilities Commission describes numerous initiatives and local community success stories in developing advanced services.[6] Local communities have also taken the initiative to encourage broadband services to schools and develop improved uses of advanced technologies by government itself – for example, through the cable franchising process. The Industry Commenters, by repeating their familiar refrain of local government delays, seek to obscure the fact that local governments are *assisting* in achieving the same goals of network development that the Commission wishes to promote.

NATOA and NLC point out once again that despite the allegations of the Industry Commenters,[7] there is no evidence to suggest that local governments' current right-of-way management or compensation policies have impeded the entry of competitive providers into the market. Telecommunications providers are pursuing entry strategies based on market factors, not local right-of-way policies. These market factors include the number and density of potential customers and revenues, and lowest costs of construction due to highest customer density.[8] The fact that competitive networks are being built – and being built in communities

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[5] *See, e.g., TCG Detroit v. City of Dearborn*, 206 F.3d 618 (6th Cir. 2000); *BellSouth Telecommunications, Inc., v. Town of Palm Beach*, 252 F.3d 1169 (11th Cir. 2001); *TCG New York, Inc. v. City of White Plains*, 125 F. Supp. 2d 81 (S.D.N.Y. 2000).

[6] *See* Pub. Util. Comm'n of Tex., Report to the 77th Texas Legislature: Availability of Advanced Services in Rural and High Cost Areas (2001) (Chapter 1 attached as Exhibit A).

[7] *See, e.g.*, MFN Comments generally, Qwest Comments at 15, Adelphia Comments at page 22.

[8] Indeed, MFN confirms this point when it makes the otherwise tendentious and inaccurate statement: "Previously, tight construction schedules and abundant capital enabled

where local governments do reasonably regulate their public rights-of-way and charge market-driven prices for use of their rights-of-way - shows that no "prohibition" of entry is occurring.[9]

It is of course true that CLEC network expansion has slowed abruptly in the last two years. But, once again, this has nothing to do with local communities' right-of-way policies. Rather, it has to do with the carriers' access to capital and with business conditions generally.[10] It is inappropriate for the Industry Commenters to seek to blame local communities for independent market conditions and the industry's own business decisions.

B. Appropriate Right-of-Way Management is Not a Barrier to Entry.

The thrust of the Telecommunications Act of 1996 is toward facilities-based competition in every area. The immediate, direct and inevitable result of this federal policy is to require more active right-of-way management, since more and more providers are using the streets. Local communities attempt to develop effective and well-balanced mechanisms for accommodating multiple right-of-way users. These efforts parallel and support the federal efforts to encourage facilities-based competition.

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carriers to pay illegal [*sic*] demands for franchise and license fees to ensure completion of a ring and service to customers." MFN Comments at 2.

[9] *See, e.g.*, Competitive Networks Comments, Reply Comments at 12-17.

[10] For example, the City of Arlington, Texas, had entered into negotiations with WideOpenWest ("WOW") in October, 2000, to build a broadband network to offer video, voice and high-speed Internet services in the City of Arlington. In May of 2001, WOW requested a brief hold in negotiations while the negotiating team concentrated on other matters. Shortly after announcing its intention to acquire the former Ameritech New Media systems in the Midwest, WOW told the City that its franchise negotiations were on hold indefinitely. This sort of development illustrates the market at work: even when local communities are

In carrying out this task of furthering competition, local governments frequently work with telecommunications providers and other users to resolve problems and make right-of-way work more efficient. On the other hand, at times local governments face situations in which telecommunications providers' refusal to cooperate makes it difficult for the locality to develop effective approaches to conserve right-of-way resources. More directly harmful are those cases where failure to abide by sound standards of right-of-way management results in serious damage.[11] Someone must be responsible for keeping track of facilities in the public rights-of-way (with the ancillary need for maps and placement information) to prevent cutting of lines; for dealing with abandoned plant when carriers go bankrupt; for managing limited space in key locations to accommodate as many users as possible; and so forth.

Right-of-way management by local governments is necessary to balance the competing demands placed upon local rights-of-way. The carriers themselves are obviously in no position to arbitrate the conflicts and difficulties that arise between carriers. The interests of competing carriers in access to the right-of-way are not always congruent with each other or with the legitimate interests of local governments and their citizens.

Nor is the Commission itself in a position to take over the task of arbitrating right-of-way issues in thousands of local communities. Congress properly recognized in § 253(c) that local government was the only candidate for the role of managing right-of-way access. A traditional and essentially local government function, the authority to manage right-of-way

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ready and even eager to accommodate a communications provider, the provider may go elsewhere due to market forces.

access is necessarily local. There is no one set of optimal construction, maintenance, make-ready, undergrounding, space allocation, restoration or insurance requirements. Indeed, if the Industry Commenters were successful in seeking to burden the Commission with the job of policing local rights-of-way nationwide, the result would undoubtedly be *slower* resolution of these detailed issues than now occurs at the local level.[12]

Do carriers truly wish to have *no one* managing the use of the rights-of-way? Surely the worst case would be one in which there was *no* entity arbitrating conflicts, addressing line cuts, rerouting traffic, and the like. One suspects that the attitude of the Industry Commenters is rather one of "Not In My Broadband Yard" – seeking minimal restrictions on their own activities but plenty of protection against interference by other users. Such a self-centric approach is, however, unworkable when many competing users of the public rights-of-way must be accommodated.

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[11] *See, e.g.*, Competitive Networks Comments, Reply Comments at 20-26. *See also* examples of Texas right-of-way accidents cited in Comments of the Texas Coalition of Cities For Utility Issues (TCCFUI), filed today in this proceeding.

[12] By way of example, comments in another proceeding note that the *average* processing time for cable rate regulation matters at the Commission was approximately five *years*. *See* Average Time Taken to Resolve Cable Regulation Proceedings in 2000, Exhibit I of the Further Comments of the Real Access Alliance, *In the Matter of Promotion of Competitive Networks in Local Telecommunications Markets,* CC Docket No. 96-98, *Wireless Communications Association International, Inc. Petition for Rulemaking to Amend Section 1.4000 of the Commission's Rules to Preempt Restrictions on Subscriber Premises Reception or Transmission Antennas Designed to Provide Fixed Wireless Services*, CC Docket No. 88-57, *Implementation of the Local Competition Provisions in the Telecommunications Act of 1996 Review of Section 68.104 and 68.213 of the Commission's Rules Concerning Connection of Simple Inside Wiring to the Telephone Network*, WT Docket No. 99-217 (filed Jan. 22, 2001). And this involved applying a set of uniform FCC regulations only slightly affected by local conditions – unlike local right-of-way matters.

C. Reasonable Right-of-Way Compensation is Not a Barrier to Entry.

The Industry Commenters continue to complain that paying a fair price for the use of municipal property would impose a barrier to entry. This claim is no more than an attempt to seize local communities' property for a single entity's benefit.

MFN, for example, orates: "Municipalities have routinely placed their parochial desires to raise revenue above state and federal laws and policies expressly adopted to encourage broadband deployment."[13] As noted above, however, § 253 specifically preserves a community's right to receive a fair price for its property - "fair and reasonable compensation." Nor does MFN make clear why a request for fair compensation by local communities is "parochial," as opposed to the normal desire of other MFN vendors to receive a fair price for a resource conveyed. Why has MFN not complained to the Commission, say, about the "parochial desires" of fiber manufacturers for revenues? The answer is that MFN, like the Industry Commenters generally, is unwilling to acknowledge that it is local communities' *property rights* that are in question. By seeking to disguise property rights as regulatory constraints, MFN seeks to induce the Commission to use federal coercive power to interfere with a market transaction. Anyone dealing with this issue should keep clearly in mind the principle that a fair market price is essential to efficient resource allocation. By definition, economic efficiency is not a barrier to entry.

Neither the Industry Commenters, nor any other of the telecommunications entities eager to obtain free use of municipal rights-of-way, has ever succeeded in showing why they should get the use of other people's property for free. Nor have they ever shown why

revenues derived from a fair market price cannot be used for purposes including the public infrastructure on which the Industry Commenters themselves depend. Indeed, MFN appears to lose sight of the fact that the revenues a city may gain from private users of its public property are not distributed to shareholders. Rather, these revenues help support essential services such as fire and police, whose critical importance in a local community has recently been so tragically demonstrated.

Thus fair and reasonable compensation requirements, like right-of-way management, lie outside the sphere of "barriers to entry." The Commission's own spectrum auction policies are directly analogous: spectrum, like right-of-way space, is a scarce resource that is most efficiently allocated through a market price mechanism such as an auction. Local property cannot be given away by the federal government to telecommunications companies without just compensation. As NATOA and NLC have noted in other comments, such a giveaway would implicate constitutional issues, including Fifth Amendment takings as well as the "anti-commandeering doctrine" of *New York v. United States*.[14] These constitutional considerations, as well as § 253 itself, require that local communities be free to take appropriate measures, including revenue-based measures, to establish such compensation.

It is significant that the Industry Commenters here are asking the Commission to interfere in the *market negotiations* they carry on with local communities. The companies expressly play off communities against one other for favorable treatment, negotiating the best price for a community's assets. Once a telecommunications provider has agreed to a price for

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[13] See MFN Comments at 2.

local community assets, it should be assumed that that price is at least fair to the provider. The companies are certainly large and sophisticated enough to drive good bargains for themselves.[15]

The federal courts, led by the Supreme Court in *City of St. Louis v. Western Union Tel.*,[16] and recently ratified by the Fifth Circuit in *City of Dallas v. FCC*,[17] recognize that local governments have the normal rights of all property owners in controlling all elements and benefits of right-of-way property. Thus, telecommunications providers placing their facilities in public rights-of-way must pay fair and reasonable compensation no less than the cable company hanging its cables in *Loretto v. TelePrompter Manhattan*[18] or providers placing their switching equipment in telephone central offices in *Bell Atlantic v. FCC*.[19]

The Industry Commenters characterize right-of-way compensation requirements as an attempt to "place tolls on the information highway."[20] This inventive rhetoric does not mask the fact that this compensation is paid by a user who *receives a special benefit in return* for that payment – consideration in the classic contractual sense. As compelling as the federal government's interest in encouraging competition in telecommunications may be, there is no

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[14] 505 U.S. 144 (1992).

[15] This attempt to use federal assistance to alter negotiated market agreements is obvious in the objections raised by some of the Industry Commenters to provisions in existing agreements. *See, e.g.*, Global Crossing Comments at 10, 12; MFN Comments at 4.

[16] *City of St. Louis v. Western Union Tel.*, 148 U.S. 92 (1893), *opinion on reh'g*, 149 U.S. 465 (1893).

[17] *City of Dallas v. FCC*, 118 F.3d 393, 397 (5th Cir. 1997).

[18] *Loretto v. TelePrompter Manhattan*, 458 U.S. 420 (1982).

[19] *Bell Atlantic v. FCC*, 306 U.S. App. D.C. 333, 24 F.3d 1441 (1994).

basis in law or logic for requiring local governments to subsidize competitors by turning over a valuable asset without charging an economically efficient price. On the contrary, as noted above, thousands of miles of networks *have already been put in place* through just the sort of market negotiations the Industry Commenters wish to stifle through federal coercion.

IV. TELECOMMUNICATIONS CARRIERS CONTINUE TO DEPRIVE LOCAL COMMUNITIES OF NOTICE.

A crucial procedural point deserves action by the Commission in this proceeding. The Commission has revised its *ex parte* rules to require that petitioners serve a copy of any preemption petition on each state or local government cited in the petition.[21] The Commission has been asked to extend these requirements to Notices of Proposed Rulemakings and Notices of Inquiries as well.[22] The purpose of the Commission's requirements is to allow state and local governments a fair opportunity to respond to allegations made against them by interested parties before the Commission.

The Industry Commenters continue to use devices to avoid informing local communities directly of industry allegations of local government misconduct. The most obvious is the failure in this proceeding to serve their comments on the affected communities. Thus, for example, Global Crossing makes claims against a number of local communities, as well as state governments and at least one federal agency, without (according to the certificate of

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[20] *See* Comments of MFN at 2.

[21] *See Suggested Guidelines for Petitions for Ruling Under § 253 of the Communications Act,* 13 F.C.C. Rcd. 22970 (1998).

service) serving copies of its comments on any of those entities.[23] Additionally, many of the comments use apparently specific characterizations that do not actually identify the communities in question.[24] Thus, Global Crossing refers coyly to "three California cities," without giving their names.[25] The Commission should not allow commenters to use this sort of evasion to avoid giving local communities proper notice of the allegations made against them and a fair opportunity to respond.

This practice of behind-the-back allegations converges with the practice (noted above) of repeated assaults in multiple proceedings, creating an environment in which local communities must maintain constant vigilance and repeatedly expend scarce resources to refute claims that otherwise would seem to gain credibility from their repetition alone. Failure to stem these practices will only give credence to the belief that the Commission's procedures give a crushing advantage to those industry entities that have the resources to participate constantly in the Commission's multiple dockets.

V. CONCLUSION

This proceeding was not intended to debate public right-of-way policy. Nonetheless, the anecdotal points made by the Industry Commenters do not establish that local communities'

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[22] *See* FCC Local And State Government Advisory Committee, Advisory Recommendation Number 2, *Notification to States and Localities Named in Commission Proceedings*, adopted June 27, 1997, http://www.fcc.gov/statelocal/recommendation2.html.

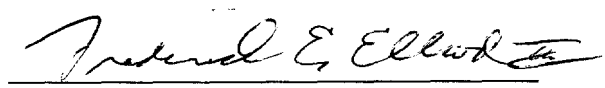
[23] *See* Global Crossing Comments at 7-8.

[24] NATOA has raised this issue before. *See, e.g.*, NATOA's Competitive Networks Comments, Reply Comments at 13-14.

[25] *Id.* at 6.

right-of-way policies impede competitive entry. On the contrary, there are sound constitutional, legal, and practical reasons for the Commission not to intrude into the property relationships between local communities and telecommunications companies. The Commission should turn its attention instead to addressing those barriers to deployment that do exist at the federal and national level, where its unique expertise and proper jurisdiction lies.

Respectfully submitted,



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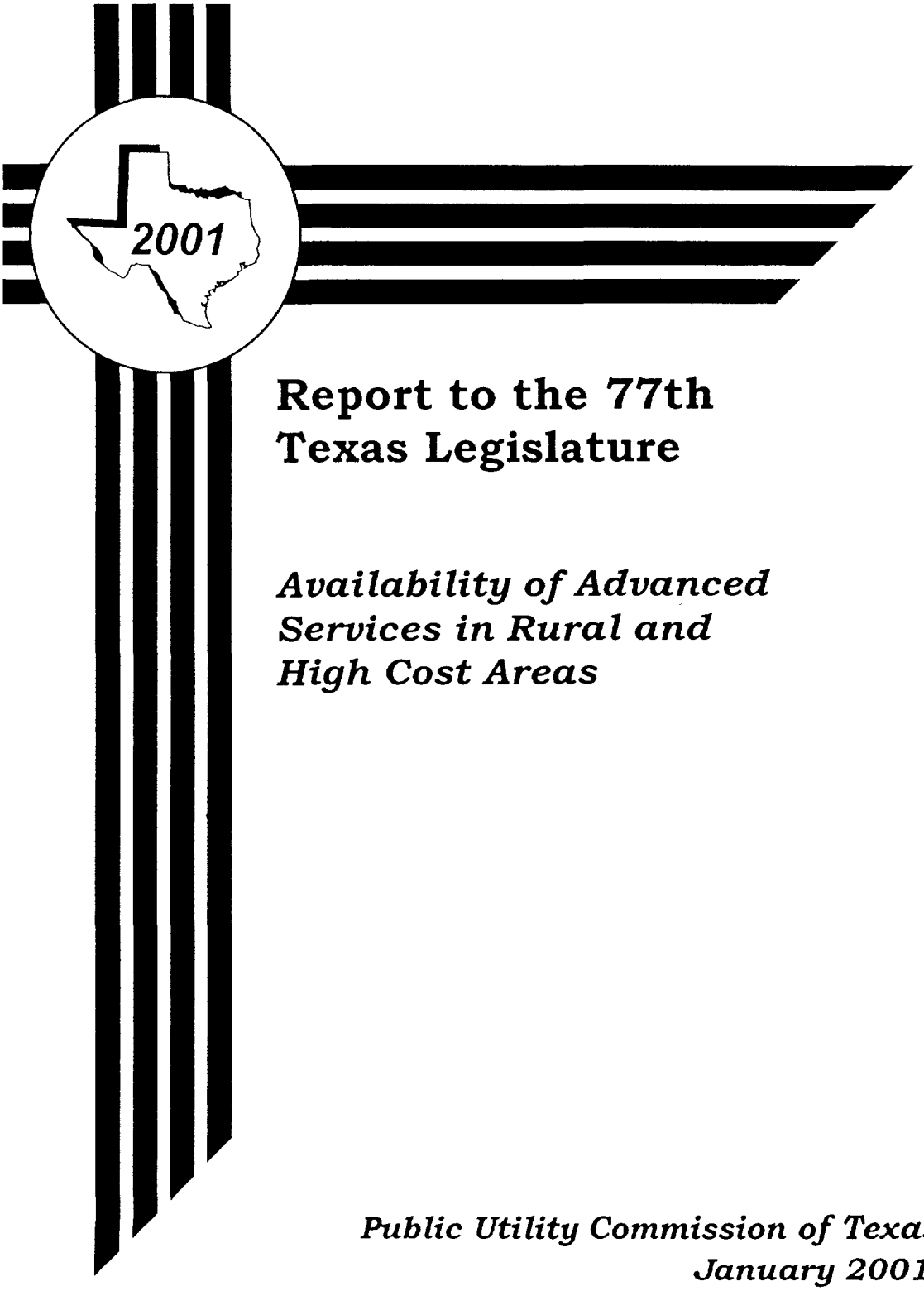
October 9, 2001

EXHIBIT A

PUBLIC UTILITY COMMISSION OF TEXAS
REPORT TO THE 77th TEXAS LEGISLATURE

CHAPTER 1



Report to the 77th Texas Legislature

Availability of Advanced Services in Rural and High Cost Areas

Public Utility Commission of Texas

January 2001

CHAPTER 1: ROLE OF ADVANCED SERVICES AND INFORMATION SERVICES

> "Like all the previous episodes of technical advance, the revolution in information technology already has improved living conditions in numerous ways and it will likely bring future benefits to rural communities that we now can only scarcely imagine."
>
> --Alan Greenspan, Federal Reserve Chairman[7]

Rural and urban Texans alike can benefit from high-speed data connections and applications. However, many small rural communities face numerous challenges: attracting new business and stemming a population outflow as well as providing citizens with access to essential community services.[8] It is generally agreed that advanced telecommunications services will play an important role in addressing these challenges. Over the last five years, the state's Telecommunications Infrastructure Fund (TIF) has had a major impact in providing access to essential community services, such as health care, education, and library resources in rural Texas. This chapter describes the impact of the state's telecommunications investment on education and telemedicine and identifies continued barriers to deployment. The chapter also examines how telecommunications infrastructure deployment can contribute to other goals, such as promoting economic development and allowing rural areas to participate in the coming e-commerce revolution. Lastly, this chapter will present several Texas and national success stories where rural communities have developed "community networks" to bring the benefits of advanced services to their residents and businesses.

Advanced Services Goals and Benefits

ECONOMIC DEVELOPMENT

Economic development managers are "nearly unanimous in their belief that advanced telecommunications services are important to a company's ability to compete."[9] "The traditional way that state and local governments have recruited new businesses is through various incentives: reduced income tax, wage subsidies, reduced rent of

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[7] *Net Will Lift Rural Life Says Greenspan* (visited Apr. 28, 2000) <http://www.nytimes.com>.

[8] Brian Staihr, *The Broadband Quandary for Rural America*, CENTER FOR THE STUDY OF RURAL AMERICA, FEDERAL RESERVE BANK OF KANSAS CITY at 1 (Aug. 2000).

[9] EDWIN B. PARKER AND HEATHER E. HUDSON, ELECTRONIC BYWAYS: STATE POLICIES FOR RURAL DEVELOPMENT THROUGH TELECOMMUNICATIONS at 86 (2d ed. 1995).

buildings, and similar inducements."[10] Today, these "old world" incentives must adapt to the "new world."

A common element of most successful economic development efforts is "strong local leadership committed to mobilizing the community's resources and obtaining the facilities it needs."[11] A critical community resource in today's economy is access to advanced services. While access to advanced services is not the only economic development challenge facing rural areas, it is one that offers measurable results and can readily distinguish one community from the next. Unfortunately, "like the interstate highways that bypassed many rural Texas towns, the network of high-speed lines into which ISPs connect run only to the major cities."[12]

"Education and worker training will be essential in helping rural communities grow high performance, knowledge-based companies."[13] However, "telecommunications technology has the potential to overcome many rural economic disadvantages, but current market trends suggest many rural places may not have access to this technology in the future."[14]

Rural Texas, like the rest of rural America, has "many competitive advantages on which to build."[15] Whether agriculture, tourism, oil and gas exploration, or manufacturing, rural Texas has much to offer. Additionally, advanced services will not only offer more to rural consumers, but will open up worldwide markets to those rural businesses and communities with the proper telecommunications infrastructure. Economic developers must remain mindful that "rural infrastructure contributes to rural economic growth, but by itself cannot guarantee growth."[16]

The remainder of this chapter, and the recommendations found in Chapter 6 of this Report, move beyond the concept of merely putting basic advanced services infrastructure in place. Instead, it begins to bridge the gap from advanced services that

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[10] *Id.* at 87.

[11] *Id.* at 88.

[12] *See* Texas Comptroller of Public Accounts, *Fiscal Notes* (Jan. 2000) <http://www.cpa.state.tx.us/ comptrol/fnotes/fn0001/fn.html>.

[13] Mark Drabenstott, *New Directions for U.S. Rural Policy*, CENTER FOR THE STUDY OF RURAL AMERICA, FEDERAL RESERVE BANK OF KANSAS CITY at 2 (Jun. 2000) (*New Directions for U.S. Rural Policy).*

[14] *Id.*

[15] *New Directions for U.S. Rural Policy* at 3.

[16] *Id.*

improve the quality of life in rural Texas (*e.g.* telemedicine and education) to the use of advanced services to encourage and stimulate economic development.

E-COMMERCE

E-commerce is the sale of goods and services over the Internet.[17] Together, the Internet and e-commerce have transformed business-to-business and business-to-customer communications. Improved communications equates to improved productivity, higher profits, and larger markets. Many, including Federal Reserve Chairman Alan Greenspan, have stated that productivity gains from the Internet are reshaping the global economy. Greenspan said there was direct evidence that the surge in production of and demand for information technologies -- most notably computers, networking and communications hardware and software -- has created an unprecedented economic expansion. FCC Commissioner Gloria Tristiani reported that "between 1995 and 1998, information technology companies, while accounting for only about 8 percent of the U.S. Gross Domestic Product, contributed on average 35 percent of the nation's real economic growth."[18]

E-commerce generated more than $300 billion in revenue in 1998.[19] "Some sources estimate that by 2003 e-commerce will account for over $3.2 trillion dollars of U.S. economic activity annually, or the equivalent of 29 percent of all domestic sales and purchases."[20] On August 31, 2000, the U.S. Census Bureau of the Department of Commerce announced that the estimate of U.S. retail e-commerce sales for second quarter 2000 was $5.518 billion, an increase of 5.3 percent from first quarter 2000.[21] E-commerce sales in the second quarter accounted for 0.68 percent of total sales.[22]

E-commerce may be especially important for rural communities because it makes areas of Texas more attractive to businesses and residents. For the first time, proximity to

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[17] *Retail E-Commerce Sales in Second Quarter 2000 Increased 5.3 Percent From First Quarter 2000, Census Bureau Reports* (last modified Aug. 31, 2000) <http://www.census.gov/mrts/www/current.html>.

[18] FCC Commissioner Glori Tristiani, Address at the New Mexico Communications Network Symposium (Nov. 10, 1999).

[19] FEDERAL COMMUNICATIONS COMMISSION, BROADBAND TODAY at 16 (Oct. 1999).

[20] Brian Staihr, *Rural America's Stake in the Digital Economy*, CENTER FOR THE STUDY OF RURAL AMERICA, FEDERAL RESERVE BANK OF KANSAS CITY at 2 (May 2000) (*Rural America's Stake in the Digital Economy).*

[21] This estimate was not adjusted for seasonal, holiday, and trading-day differences.

[22] *Retail E-Commerce Sales in Second Quarter 2000 Increased 5.3 Percent From First Quarter 2000, Census Bureau Reports* (last modified Aug. 31, 2000) <http://www.census.gov/mrts/www/current.html>.

customers is less significant. Yet proximity to fast Internet connections remains important, as new high-tech startups, as well as older, more established firms, are becoming increasingly dependent upon high-speed Internet connections. Plant sites and other location decisions are increasingly being driven by the presence of a quality telecommunications infrastructure. High-speed Internet connections are also becoming more important to professionals and affluent retirees.[23] Further, "e-commerce in agriculture is expected to flourish; estimates place the value of e-commerce for agriculture in the range of $70 billion by 2003, with greater growth in the years to follow."[24] In sum, e-commerce has become an essential part of economic development. Therefore, advanced services that, thus far, have primarily been utilized to improve the quality of life of rural Texans may now become a valued tool in the economic development and commercial success of rural businesses and communities.

TELEMEDICINE

One of the first uses of high-speed data connections in rural Texas was telemedicine. "Telemedicine enables patients and providers to interact with health care professionals located miles apart. It increases patients' access to specialists through video-imaging and real-time collaboration using computer and telecommunications technology. Telemedicine also brings continuing medical education and training to isolated providers."[25] As a result, patients are saved the inconvenience, expense, and burden of traveling to separate medical facilities.

Telemedicine requires extensive bandwidth because it is critical that images are sharp and clear. In time, the American Telemedicine Association believes that the Internet will provide the required bandwidth; however, medical facilities now typically use dedicated high-speed connections, such as T-1's.[26] These high-speed facilities link one medical facility to another and cannot be used for anything other than communications between the two sites.

The Texas Department of Criminal Justice (TDCJ) utilizes telemedicine to treat inmates. The University of Texas Medical Branch on Galveston Island and Texas Tech Health Science Center in Lubbock are responsible for providing health care for approximately 130,000 TDCJ inmates. Before telemedicine, some inmates traveled as far

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[23] Chris O'Malley, *The Digital Divide: Small Towns that Lack High-Speed Internet Access Find it Harder to Attract New Jobs*, TIME (Mar. 22, 1999).

[24] *Rural America's Stake in the Digital Economy* at 3.

[25] Senate Health Committee: Report to the 77th Legislature at 5.42 (Oct. 4, 2000).

[26] American Telemedicine Association, *Telemedicine: A Brief Overview Developed for the Congressional Telehealth Briefing* (visited Jun. 23, 1999) <http://www.atmeda.org/news.newres.htm>. A T-1 is a digital transmission link with a capability of 1.544 Mbps that runs over two pairs of copper wires that are identical to those found in residential homes.

as 850 miles for a specialty clinic appointment, with the average travel distance estimated between 200 and 300 miles one way to reach the Galveston clinics. Today, telemedicine is successfully being utilized in the TDCJ managed care program to treat inmates in a cost-effective manner.[27]

Still, barriers remain to full deployment of telemedicine to rural areas. The telecommunications infrastructure necessary for broadband access in many rural areas remains financially unattractive, because "rural areas may not have the number of potential customers that would be needed to support such a venture."[28] Additionally, the cost for telemedicine providers is prohibitive in many instances. While a Telecommunications Infrastructure Fund (TIF) grant may cover first year implementation costs, "beyond the first year, the provider must absorb the costs, which are often not recouped in the patient visit charges."[29] Additionally, for-profit medical providers are ineligible for TIF funding and may not access library or school infrastructure provided by TIF funding that is now available in many rural communities.[30]

However, the TIF has awarded:[31]

- more than $21 million to enhance current or establish new healthcare services through the purchase of telecommunications equipment;
- more than $20 million to establish local area networks connected to the Internet and to purchase telemedicine equipment to provide clinical services for direct patient care;
- more than $9 million to enhance patient care by improving distance learning facilities; and
- more than $3 million to enhance local health departments' ability to enhance and/or provide public access to medical information and services.

Many of these projects have a direct impact on the availability and quality of health care available to rural Texans.

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[27] Senate Health Committee: Report to the 77th Legislature at 5.47-5.48.

[28] Senate Health Committee: Report to the 77th Legislature at 5.44 (*citing* CENTER FOR RURAL HEALTH INITIATIVE'S REPORT ON RURAL TELEMEDICINE ISSUES FOR THE HOUSE SELECT COMMITTEE ON RURAL DEVELOPMENT (Jun. 13, 2000)).

[29] *Id.*

[30] *Id.* at 5.45.

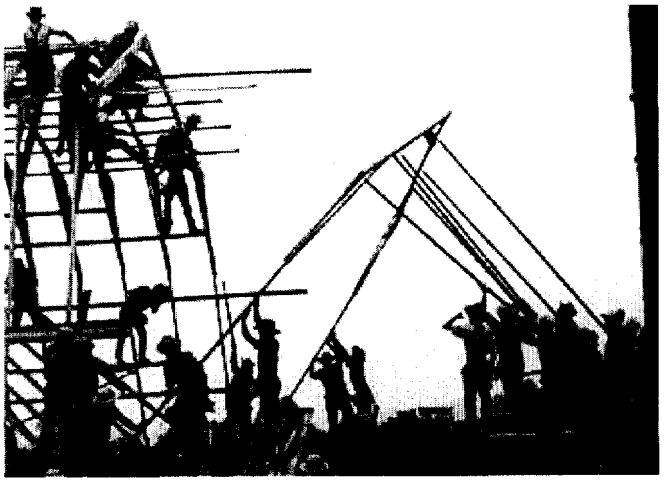
[31] E-mail from Whitney Sklar on behalf of Sam Tessen, Executive Director, Telecommunications Infrastructure Fund Board (Nov. 27, 2000) (Sklar e-mail).

TELECOMMUTING AND DISTANCE LEARNING

Colleges and universities were among the first institutions to link together through the Internet in order to "telecommute." Secondary educators are also beginning to link to each other. Telecommuting provides students with more diverse course offerings and specialized classes. Many primary and secondary schools currently use high-speed connections to provide distance learning, which allows students to attend classes in a location distant from where the course is being presented.

Importantly, the TIF has funded telecommunications infrastructure, Internet connectivity, and computer equipment for 99% of Texas public school districts, representing 55% of campuses and 50% of the state's 3.9 million public school students.[32] Additionally, the TIF has funded grants to 566 of 574 rural public school districts and to 335 rural public libraries.[33] These programs, as well as others,[34] are preparing and enhancing the ability of rural Texans to participate in the Internet Age.

Community Success Stories



Communities Uniting for a Common Goal

Some communities have been especially pro-active in investing in broadband infrastructure and provisioning advanced services to their citizens. This civic activism has been a powerful tool to help connect small towns. Examples of such endeavors are Commerce, LaGrange, Hamilton, and Dell City, Texas, La Grange, Georgia, and Blacksburg, Virginia.

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[32] Office of the State Auditor of Texas, AN AUDIT REPORT ON THE TELECOMMUNICATIONS INFRASTRUCTURE FUND BOARD (Feb. 2000) at 15.

[33] Sklar e-mail.

[34] *See* Appendix N of this Report.

COMMERCE AND LAGRANGE, TEXAS[35]

The TIF's recent Community Network Implementation Grant program awarded 36 grants to help several small Texas communities, such as Commerce and La Grange, work collaboratively to obtain access to telecommunications resources.

On October 18, 2000, Commerce received a $500,000 grant from the TIF to establish a community network. The Commerce Community Network is a partnership of the City of Commerce, Commerce Economic Development Corporation, Commerce ISD, Texas A&M – Commerce, Commerce Public Library, the Chamber of Commerce, and Koyote Communications. Texas A&M – Commerce President Dr. Keith McFarland noted "the new technology can be used to revitalize our rural community . . . open opportunities to underemployed rural residents and create partnerships to help our students." The community network will use digital subscriber lines (xDSL) provided by Koyote Communications via a facilities-based interconnection agreement with Sprint. The goals of the community network are to maximize options for broadband user access; establish the infrastructure for the Northeast Texas Technology Academy; and establish a state model for using advanced technologies to enhance economic development for rural communities.

Similarly, LaGrange Independent School District, on behalf of the LaGrange Community Computer Network (LGCCN), received a community networking implementation grant from TIF to provide local as well as worldwide access to education, information, and communication resources. The LGCCN includes among its partners the Colorado Valley Telephone Cooperative, Verizon, and various local governmental agencies.

HAMILTON, TEXAS[36]

In Hamilton, connecting to the Internet has been primarily the result of private initiatives. Hamilton, located approximately 70 miles west of Waco, boasts that more than 60 percent of its households are connected to the Internet. Furthermore, its residents "stay connected about 59 minutes a day compared to the national average of 20 minutes."[37]

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[35] *Commerce Community Network Receives $500,000 State Telecommunications Grant: Model Program to Increase Rural Access to Digital Economy*, COMMERCE JOURNAL (Oct. 18, 2000); *see also* information provided by the Texas Telephone Association (TTA) regarding the LaGrange Community Computer Network.

[36] Carol Flake Chapman, *Tech of the Town*, TEXAS MONTHLY BIZ (Mar. 2000) at 30.

[37] Mark England, *Man Leads Small Central Texas Town to Forefront of Technology* (Mar. 2, 2000) <http://www.accesswaco.com/auto/feed/news/local/2000/03/04/952213611.17471.8522.0900.html>.

Internet access has allowed the Hamilton General Hospital, which cannot afford a radiologist, to have CAT scans read by consultants in Nashville, Tennessee. Additionally, others have been able to pursue business opportunities or recreational interests while enjoying the benefits of life in a small town.[38] Further, a recent study conducted for the Hamilton Economic Development Corporation showed that one of the benefits of living in Hamilton is that it is "wired."[39]

DELL CITY, TX[40]

The Dell City project originated in a remote and sparsely populated school district in West Texas, about 90 miles east of El Paso. Facing consolidation, the former superintendent of the Dell City School District, Kay Carr, forged relationships with area schools, colleges, and businesses in order to bring a telecommunications network to the area.[41] The Dell City Initiative secured a number of grants, which paved the way for a series of technology innovations. With the help of the local telephone cooperative, cable was installed between the Dell City schools, Fabens Independent School District, Region 19 Educational Service Center, and the University of Texas at El Paso (UTEP), enabling them to exchange curriculum and resources via the network. Currently, the system is used for staff development and teleconferencing.

LA GRANGE, GEORGIA[42]

La Grange, Georgia, is a small rural community, approximately 45 minutes outside of Atlanta. The city of La Grange negotiated a deal with Worldgate Communications Inc. (Worldgate), which specializes in interactive television, to provide all 27,000 residents free Internet access. La Grange announced plans to capitalize on fiber-optic cable the city laid a decade ago by wiring every household, school, government office, and retail store. This makes La Grange the largest fully wired city in the country. By combining the old fiber-optic cable with coaxial cable from Charter Communications (Charter), the city's network provides Internet access at broadband speeds.

Households and businesses receive free installation, cable modems, and free Internet access for at least the first year. Homes without computers receive a set-top

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[38] *Id.*

[39] *Id.*

[40] *The Dell City Initiative* (last modified Dec. 21, 1999) <http://www.sedl.org/rural/seeds/texas/dell.html>.

[41] Kay Carr is now a member of the Telecommunications Infrastructure Fund (TIF) Board. Her term expires August 31, 2003.

[42] *Georgia City of 27,000 to be totally wired* (last modified Apr. 10, 2000) <http://www.chippewafallsnews.com/bym/tech/news/apr00/wired11041000.asp>.

Internet access device for their televisions. In addition, the city sends technicians into homes to train people unfamiliar with the Internet.

Under normal circumstances, Worldgate would receive $3 out of the $4 to $15 monthly subscription fee that cable operators charge their WorldGate users. In LaGrange, WorldGate is discounting its rate to the cable operator, receiving less than $1 per month per home from Charter. WorldGate says that its service combines proprietary technology with the cable television platform to use either the existing advanced analog or digital cable converter along with a remote control or wireless keyboard to bring the Internet to cable subscribers. With advanced analog converters, the service operates at more than twice the speed of a standard 56 Kbps telephone modem. With digital converters, the service operates at speeds up to 3.8 Mbps, or more than 3.5 times faster than a typical cable modem.

Jeff Lukken, the city's mayor, says one motivation for the "La Grange Internet TV Initiative" was maintaining the city's role as regional center for several Fortune 500 companies. Lukken also said the network should attract and keep big employers, let teachers communicate more easily with parents, enable more students to use the Internet at home, and help local retailers compete on the Internet.

BLACKSBURG, VIRGINIA[43]

The Blacksburg Electronic Village (BEV) is an outreach effort of Virginia Tech University, in partnership with the town of Blacksburg. Based entirely on the Internet, the BEV hopes to foster the virtual community that has been created to complement and enhance the physical community. Blacksburg is also investigating the factors that make community networks self-supporting and responsive to user needs, and is providing assistance to other communities that are trying to develop viable community networks.

Local residents in Blacksburg are actively engaged in a wide variety of network activities, such as contributing to the BEV Web site, using email to keep in touch with friends and family, discussing local issues online, and publishing information about themselves, their work, and their personal interests. The project includes citizens, government, and businesses. The BEV is committed to community-wide, comprehensive and inexpensive Internet access for all members of the community. Through strong cooperative efforts with the public schools and the public library, all school children have free direct access to the Internet, including personal electronic mail accounts. Citizens may choose several connection methods, including dial-up access through several local ISPs; integrated services digital network (ISDN); Ethernet provided by the BEV, Bell Atlantic, and other ISPs; or access through public Internet workstations at libraries and schools.

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[43] *Blacksburg Electronic Village: About the BEV* (visited Nov. 9, 2000) < http://www.bev.net/project/brochures/about.html#2>.

The BEV has broken new ground in many areas of networking and technology use. The BEV is one of the oldest Internet-based community networks in the country and has the highest per capita use of the Internet in the world, with more than 87% of Blacksburg residents online as of late 1999. Even more notable is that Blacksburg is the first town in the world to adopt an all-Internet model for a community-wide network and the first community in the United States to offer residential Ethernet service as an amenity in apartments and town homes.

In Montgomery County, every classroom in every school has direct, high-speed Internet access. As a result, Blacksburg has the highest per capita availability of ISPs in the world, with more than a dozen local and national providers offering modem and dedicated access, including cable modem, ISDN, and digital subscriber line (xDSL) services. Blacksburg has the highest business use of the Internet of any community in the world, with more than 75% of Blacksburg businesses using the Internet for commerce and advertising; more than 475 businesses have listings on the BEV.

Clearly, the Internet can contribute to the improvement of any community regardless of size or location. Rural Texas' opportunities for economic development and improved quality of life may lie in significant part within the Internet and access to advanced services.